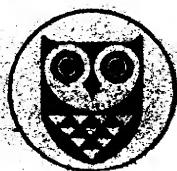
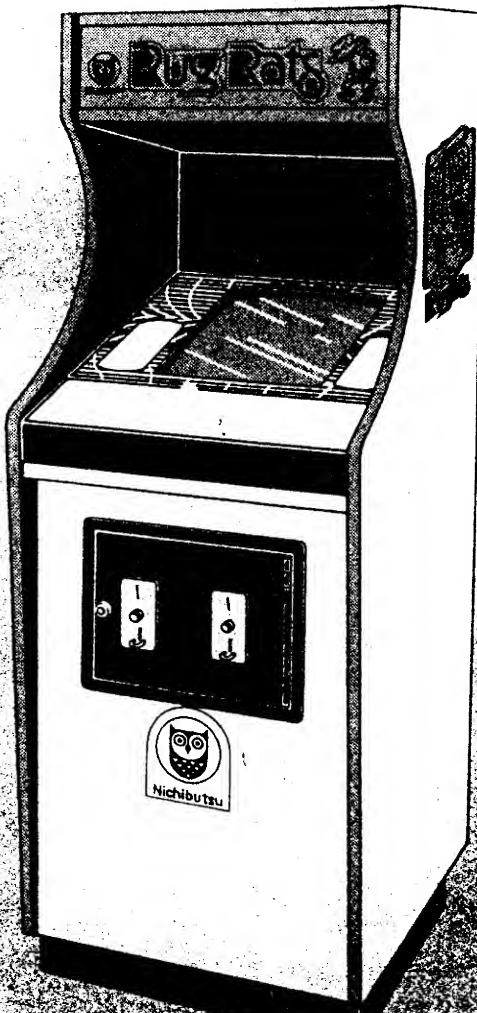


INSTRUCTION



Nichibutsu

1. LICENSE SEAL

The "RUG RATS" is the trade mark and the copyright of Nihon Bussan Co., Ltd. (Nichibutsu)

The license seal can be displayed on the game machine as FIGURE 1.

It is essential for the license seal to be visible but use caution not to be peeled away and lose the identity of the board. Nichibutsu issued only one license seal per each board sold and no duplicates will ever be made.

Put the seal on the back of the little window provided on our marquee or on the back of any clear glass or plastic overlay that you might be using.

PLACE LISENCE SEAL
HERE.

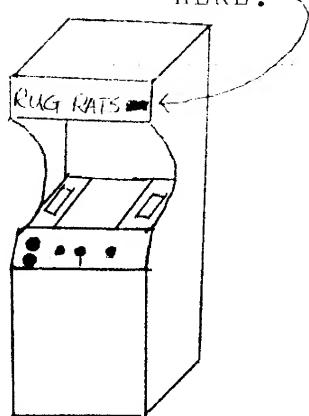


FIGURE 1

2. POWER REQUIREMENTS

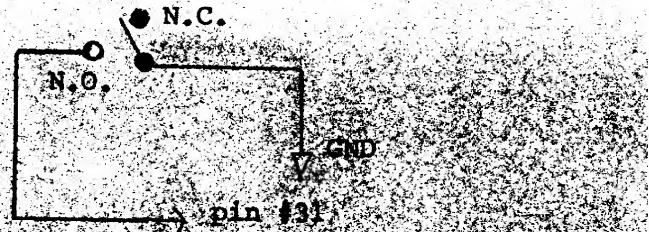
The P.C. Board requires a power supply of
+5V 2A (+5%) for game logics,
+12V 1A (+10%) for audio IC only.

3. CONTROL PANEL SECTION

A 4-way joystick and a shoot button are required. RUG RATS will not work properly with a 8-way joystick.

4. COIN SELECTOR WIRING

A coin selector switch may be connected to either pin 32 (coin 1) or pin 31 (coin 2).



5. HARNESS

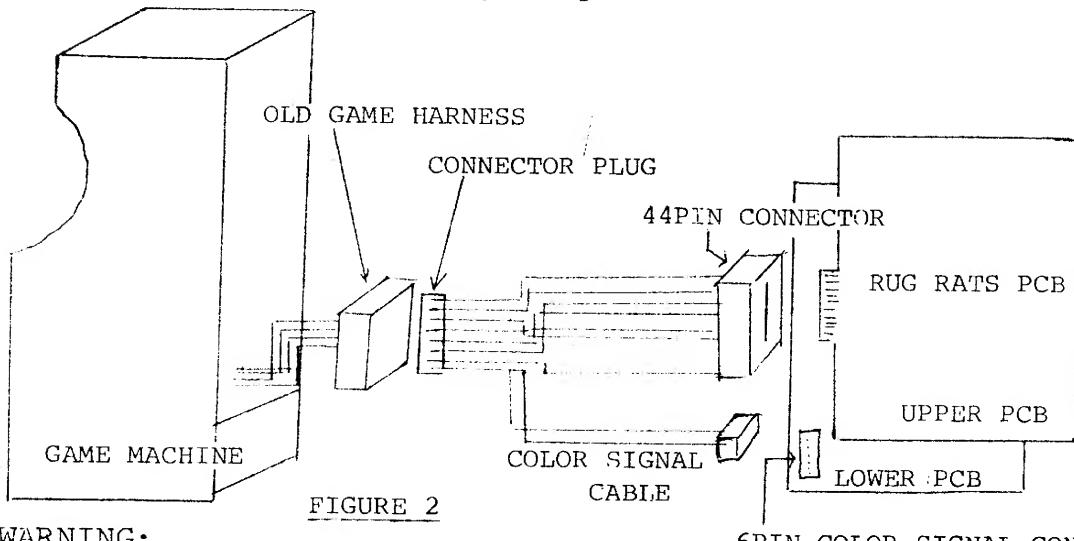
RUG RATS KIT comes with one connector plug for your convenience when converting it on other game machines.

- 1) Cut the connector-plug as needed, so that it can plug into your game machine connector.
- 2) Insert the connector-plug into your own game connector and using a pencil to mark "R", "L", "+5", etc..... according to signal at the pin on the connector.
- 3) Connect the connector-plug and 44-pin connector of RUG RATS with wires. (FIGURE 2)

Pin Marked "L" will be connected to pin #15 of RUG RATS connector.

" " "R" " " " to pin #16 " "

etc.....(See wiring diagram)



WARNING:

Wiring of the harness that supplys the power (+5V, +12V) to the P.C.B. board must be connected as specified, or else, damage may occur.

Before inserting a RUG RATS P.C.B. into the connector, check the voltage of these pins carefully.

Pin #1,2,3,4,41,42,43,44 = GND (0V)

Pin #5,6,7,8,37,38,39,40 = + 5V

Pin #8,9 = +12V

A color signal cable is provided to connect R.G.S. and SYNC signals from the monitor. It is located at a right corner of the lower P.C. Board to the harness or to the TV Monitor directly.

Pin No	Signal
1.	RED
2.	BLUE
3.	GREEN
4.	SYNC
5.	GND
6.	N.C.

TV monitor has to be equipped with TTL input level.

TV monitor must be placed vertical.

RUG RATS P.C. Board is designed to be used with "1-SYNC" signal monitor.

However, if your TV monitor is a "2-SYNC" signals one, please connect as dash line in FIGURE 3.

Then, pin #4 = V SYNC

pin #6 = H SYNC

On some kinds of monitors, it is necessary:

- * To add 2 resistors to fit the input impedance of the monitor (FIGURE 4)
- * To turn the picture tube 180 degrees if the screen is displayed up-side-down.

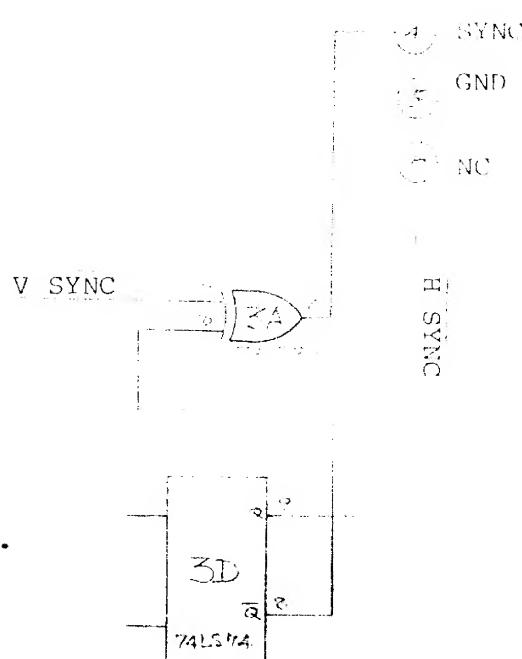


FIGURE 3.

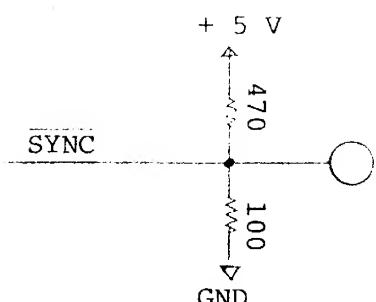
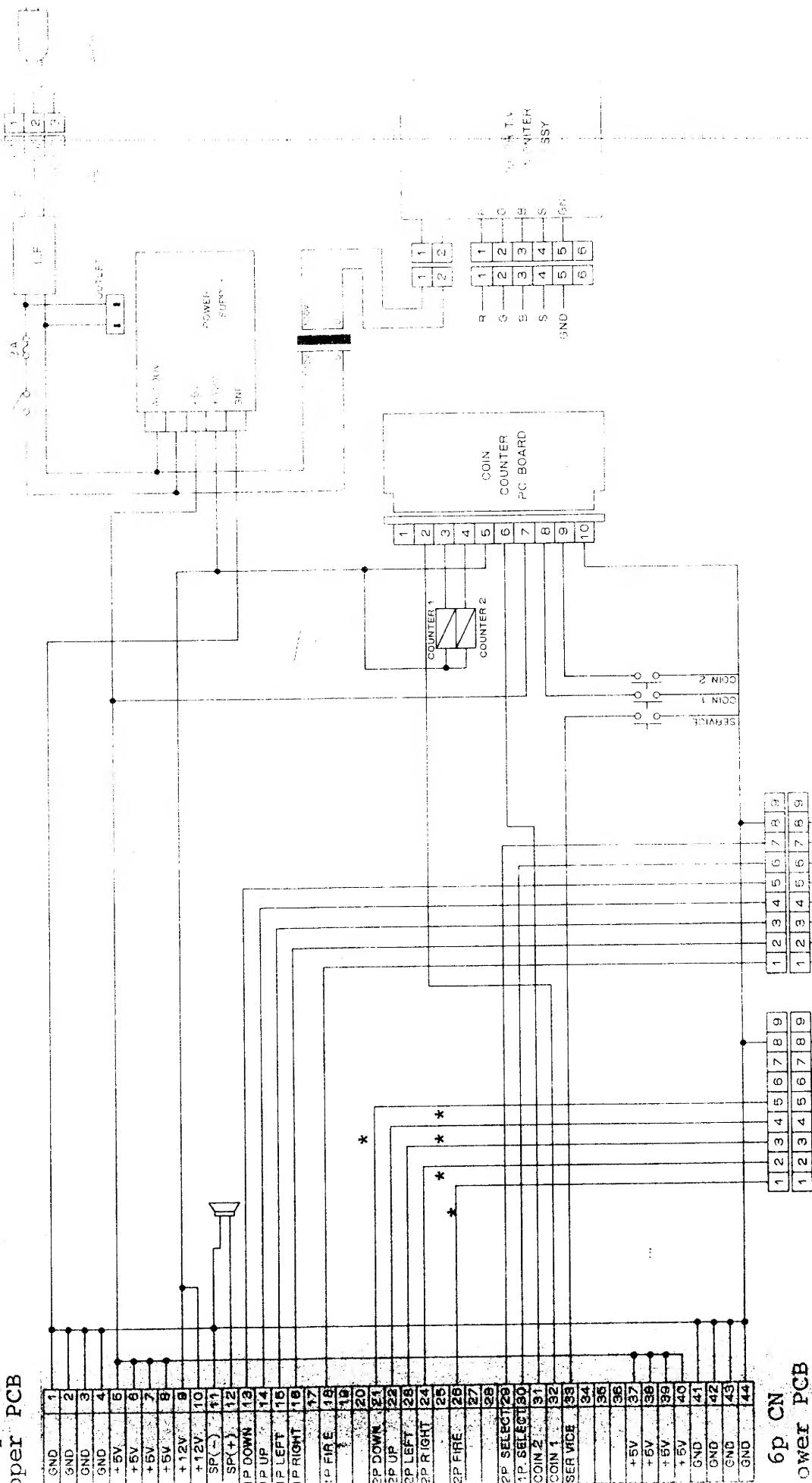


FIGURE 4.

7. THE KITS INCLUDE:

A.	Instruction	1pc
B.	License Seal	1pc
C.	Marquee	1pc
D.	"How to play" card	2pcs
E.	Z-Bracket	4pcs
F.	Color Signal Cable	1pc
G.	44-pin Connector	1pc
H.	Connector Plug	1pc

44P CN
Copper PCB

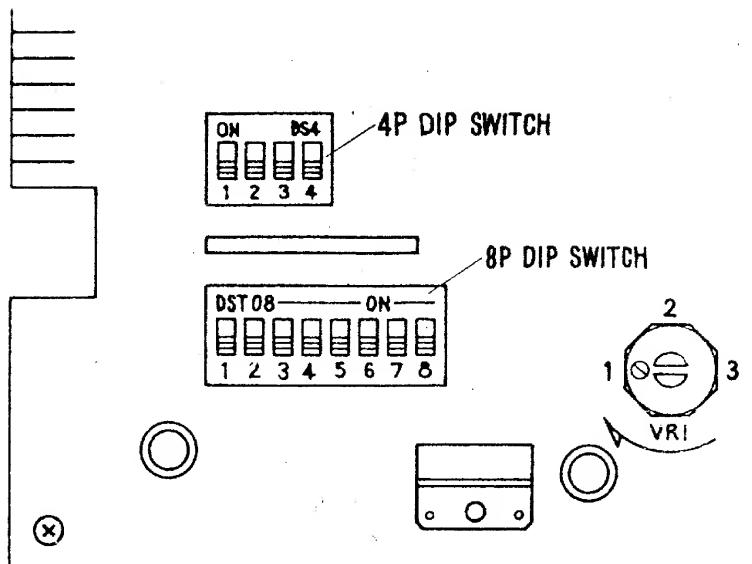


6p CN
owner PCB



2P. connections
 *for cocktail table
 *N.C. for upright

ADJUSTMENTS



4P DIP SWITCH

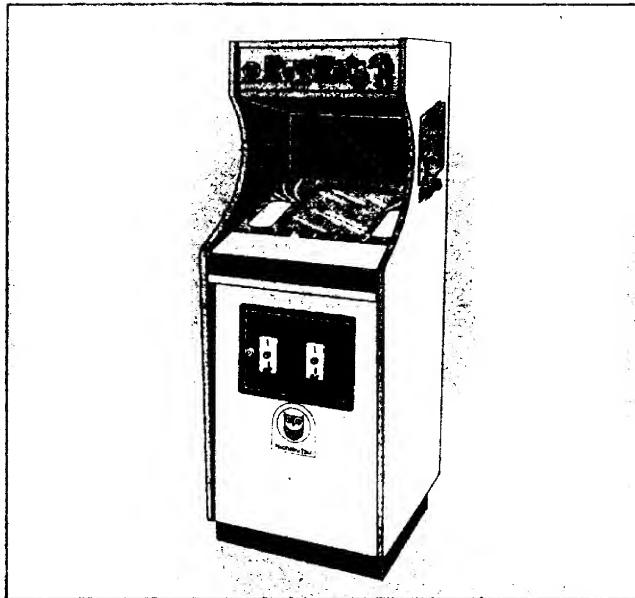
OPTION	DIP SWITCH NUMBER	1	2	3	4
TABLE		OFF	OFF		
UPRIGHT		ON	OFF		
TEST		ON		OFF	
NORMAL		OFF		OFF	
BONUS POINTS 100000 & 200000		OFF		OFF	
BONUS POINTS 150000 & 300000		ON		OFF	

8P DIP SWITCH

OPTION	DIP SWITCH NUMBER							
	1	2	3	4	5	6	7	8
FREE PLAY					OFF	OFF	OFF	
1 coin/1 credit					ON	OFF	OFF	
COIN SELECTOR 1	1 coin/2 credits				OFF	ON	OFF	
COINAGE	1 coin/3 credits				ON	ON	OFF	
	1 coin/4 credits				OFF	OFF	ON	
	1 coin/5 credits				ON	OFF	ON	
	1 coin/6 credits				OFF	ON	ON	
	1 coin/7 credits				ON	ON	ON	
COIN SELECTOR 2	1 coin / 1 credit				OFF	OFF		ON
COINAGE	2 coins/1 credit				OFF	ON		OFF
	3 coins/1 credit				OFF	ON		ON
	4 coins/1 credit				ON	OFF		OFF
	5 coins/1 credit				ON	OFF		ON
	6 coins/1 credit				ON	ON		OFF
	7 coins/1 credit				ON	ON		ON
NUMBER of CLEANERS	2 cleaners			OFF	OFF			
	3 cleaners			OFF	ON			
	4 cleaners			ON	OFF			
	5 cleaners			ON	ON			

V.R.I.

V.R. for the adjustment of sound volume. It will become smaller in turning it to arrow mark.



Nichibutsu

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